

Appl. No. 10/081,815
Reply to Office Action of February 24, 2005

This listing of claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS

1. (canceled).

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2. (currently amended) The A method as claimed in claim 21 further 1
comprising using said first algorithm to calculate absolute spacings among said
landmarks in the respective visualized ~~optically presented~~ measured results and
~~the respective individual datasets~~, and using the second algorithm to allocate
10 corresponding landmarks in at least one visualized ~~optically presented~~ measured
result ~~and at least one dataset~~ using the absolute spacings calculated with said
first algorithm.

3. (currently amended) The A method as claimed in claim 21 further 1
15 comprising using said first algorithm to calculate relative spacings among said
landmarks in the respective visualized ~~optically presented~~ measured results and
~~the respective individual datasets~~, and using the second algorithm to allocate
corresponding landmarks in at least one visualized ~~optically presented~~ measured
result ~~and at least one dataset~~ using the relative spacings calculated with said
20 first algorithm.

4. (currently amended) The A method as claimed in claim 21 further 1
comprising, in said second algorithm, permutating the allocation of the landmarks
until a predetermined high coincidence is reached.

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5. (currently amended) The A method as claimed in claim 4 further
comprising, in said second algorithm, permutating the allocation of said
landmarks until 90% of said landmarks are allocated.

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6. (currently amended) The A method as claimed in claim 21 further 4
comprising, in said second algorithm, recognizing and rejecting false landmarks.

5 7. (currently amended) The A method as claimed in claim 21 further 4
comprising automatically defining at least one of said landmarks using data
underlying the respective visualized ~~optically presented~~ measured results ~~and the~~
~~respective datasets.~~

10 8. (currently amended) The A method as claimed in claim 7 further
comprising physically attaching said markers to said examination subject, and
automatically defining said at least one landmark automatically with a pattern
recognition algorithm.

15 9. (currently amended) The A method as claimed in claim 21 further 4
comprising:

conducting a two-dimensional matching of said at least one visualized
~~optically presented~~ measured result and said at least one dataset,
and ~~comprising~~

20 defining said landmarks according to the steps of:

defining at least three landmarks in an arbitrary sequence in said at
least one visualized ~~optically presented~~ measured result with
reference to a ~~said~~ displayed image of said examination
subject, with at least one of said landmarks being differently
25 spaced from a remainder of said landmarks to prohibit an
overall symmetrical arrangement of the at least three
landmarks; and

defining said at least three landmarks in an arbitrary sequence in
each of said datasets with reference to said displayed image

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of said examination subject, with at least three of said landmarks in each dataset corresponding to two arbitrary of said landmarks and said landmark that is differently spaced from the remainder of said landmarks.

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10. (currently amended) The A method as claimed in claim 21 further 4 comprising defining said geometrical arrangement of said landmarks using said first algorithm before defining said landmarks in ~~said~~ at least one dataset.

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11. (currently amended) The A method as claimed in claim 21 further 4 wherein the step of analyzing said landmarks with said first algorithm comprises analyzing all of said landmarks in common with said first algorithm only after all of said landmarks are defined in said at least one visualized ~~optically presented~~ measured result ~~and in said at least one dataset~~.

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12. (canceled)

13. (currently amended) The An apparatus as claimed in claim 22 42 wherein said landmark definition unit defines at least one of said landmarks using 20 data underlying said at least one visualized ~~optically presented~~ measured result ~~and said at least one dataset~~.

14. (currently amended) The An apparatus as claimed in claim 13, further comprising markers adapted for direct application to said examination subject 25 and wherein said definition unit automatically identifies at least one of said markers, as at least one of said landmarks, using a pattern recognition algorithm.

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15. (currently amended) The ~~An~~ apparatus as claimed in claim 22 ~~42~~ wherein said definition unit, said analysis unit and said allocation unit in combination form a computer with a picture screen and an input unit.

5 16. (currently amended) The ~~An~~ apparatus as claimed in claim 15 wherein said input unit is a computer mouse.

10 17. (currently amended) The ~~An~~ apparatus as claimed in claim 22 ~~42~~ further comprising a memory, accessible at least by said definition unit, in which said at least one visualized ~~optically-presented~~ measured result and said at least one dataset are stored.

15 18. (currently amended) The ~~An~~ apparatus as claimed in claim 17 wherein said memory also stores landmarks defined in said at least one visualized ~~optically-presented~~ measured result.

19. (currently amended) The ~~An~~ apparatus as claimed in claim 17 wherein said memory also stores landmarks defined in said at least one dataset.

20 20. (currently amended) The ~~An~~ apparatus as claimed in claim 17 wherein said memory also stores landmarks defined in said at least one visualized ~~optically-presented~~ measured result and said at least one dataset.

25 21. (new) A method for matching two or more visualized measured results obtained with a medical device from an examination subject, comprising:
 arranging two or more landmarks in a first visualized measured result in a geometrical arrangement;

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- determining if a sufficient number of landmarks has been arranged in said first visualized measured result, and, if yes, analyzing a spatial allocation of said arranged landmarks in said first visualized measured result using a first algorithm;
- 5 arranging two or more landmarks in a second visualized measured result in a geometrical arrangement;
- determining if a sufficient number of landmarks has been arranged in said second visualized measured result, and, if yes, analyzing a spatial arrangement of said arranged landmarks in said second visualized measured result using said first algorithm, and
- 10 allocating respectively matching landmarks from said first and second visualized measured result to form landmark pairs using a second algorithm based on the analyzing results from the first algorithm.
- 15 22. (new) An apparatus for matching two or more visualized measured results obtained with a medical device from an examination subject containing information from said examination subject, comprising:
- a landmark definition unit for defining and arranging two or more landmarks in a first visualized measured result in a geometrical arrangement and two or more landmarks in a second visualized measured result in a geometrical arrangement;
- 20 an analysis unit for determining if a sufficient number of landmarks has been arranged in said first and second visualized measured result, and if yes for either, analyzing an appertaining spatial allocation of said arranged landmarks in said first visualized measured result and said second visualized measured result, respectively, using a first algorithm; and
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an allocation unit for matching landmarks from said first and second
visualized measured result to form landmark pairs using a second
algorithm based on the analyzing results from the first algorithm.

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